

What is claimed is:

- 5           1.       A method for producing a pair of spectacle lenses, comprising: a.)  
determining a refractive power for each lens of a pair of lenses based on an  
individual's dioptric power prescription; b.) determining an individual's resolution;  
and c.) varying a magnification for each lens of the lens pair based on the resolution  
determined, wherein the magnification is varied without substantially varying the  
10   refractive power of the lens pair.
2.       The method of claim 1, wherein the lenses are progressive addition  
lenses.
- 15       3.       The method of claim 1, wherein the resolution is determined directly.
4.       The method of claim 2, wherein the resolution is determined directly.
5.       The method of claim 1, wherein step c.) further comprises varying the  
20   magnification by varying at least one of t, n, and h, in the following equation:

$$M = \left[ \frac{1}{1 - \frac{tF_1}{n}} \right] \left[ \frac{1}{1 - hF_v} \right]$$

wherein M is the lens magnification;

25   t is the lens thickness;

n is the refractive index of the lens material;

F<sub>1</sub> is the curvature of the front surface of the lens;

h is the distance from the back vertex, or distance from the point of intersection on  
the lens of the principal axis, to the entrance pupil of the eye; and

$F_v$  is the back vertex power, or the reciprocal of the distance, in air, from the back surface of the lens to the secondary focal point.

- 5            6.        The method of claim 2, wherein step c.) further comprises varying the magnification by varying at least one of  $t$ ,  $n$ , and  $h$ , in the following equation:

$$M = \left[ \frac{1}{1 - tF_1/n} \right] \left[ \frac{1}{1 - hF_v} \right]$$

- 10    wherein  $M$  is the lens magnification;  
        $t$  is the lens thickness;  
        $n$  is the refractive index of the lens material;  
        $F_1$  is the curvature of the front surface of the lens;  
        $h$  is the distance from the back vertex, or distance from the point of intersection on  
 15    the lens of the principal axis, to the entrance pupil of the eye; and  
        $F_v$  is the back vertex power, or the reciprocal of the distance, in air, from the back surface of the lens to the secondary focal point.

7.        The method of claim 4, wherein step c.) further comprises varying the  
 20    magnification by varying at least one of  $t$ ,  $n$ , and  $h$ , in the following equation:

$$M = \left[ \frac{1}{1 - tF_1/n} \right] \left[ \frac{1}{1 - hF_v} \right]$$

- wherein  $M$  is the lens magnification;  
 25     $t$  is the lens thickness;  
        $n$  is the refractive index of the lens material;  
        $F_1$  is the curvature of the front surface of the lens;

$h$  is the distance from the back vertex, or distance from the point of intersection on the lens of the principal axis, to the entrance pupil of the eye; and

$F_v$  is the back vertex power, or the reciprocal of the distance, in air, from the back  
5 surface of the lens to the secondary focal point.

8. The method of claim 1, wherein step c.) further comprises varying the magnification by using ray tracing analysis.

10 9. The method of claim 2, wherein step c.) further comprises varying the magnification by using ray tracing analysis.

10. The method of claim 4, wherein step c.) further comprises varying the magnification by using ray tracing analysis

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11. A method for producing a pair of spectacle lenses, comprising: a.) determining a refractive power for each lens of a pair of lenses based on an individual's dioptric power prescription; and b.) varying the magnification for each lens of the lens pair so that the magnification difference between the lenses is  
20 minimized.

12. The method of claim 11, wherein the lenses are progressive addition lenses.